



To: Brian Duffy-WGGM USACE COR

CC: Mike Debenedictis, Amado Domingo, John Beckman – WGGM USACE; Nidal Azzam –USEPA HP

From: Rebecca Scarborough – Sevenson WGGM PHP

Date: February 04, 2010

RE: Scoping Survey Performed on Residence at 230 N. King Street

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Sevenson performed a scoping survey on the 1<sup>st</sup> floor and basement areas of the residence at 230 N. King Street to determine the existing radiological conditions of the areas where Sevenson would either be accessing the residence to perform work or performing the actual remediation. A copy of the survey results has been attached to this document and is labeled as Attachment 1. This assessment was conducted on January 18<sup>th</sup> 2010. A majority of the data collected and used for this assessment was below the Permanent Fixed Structure and Brick Criterion listed in Table 1. However, the basement floor slab indicated elevated surface gamma measurements, and the window sill located on the west wall contains contaminated material.

This scoping survey concentrated on sample locations that would have a more than reasonable chance to identify contamination. These locations included but were not limited to the floor area and walls of the 1<sup>st</sup> floor and basement; flat horizontal surfaces (window sills) where dust may accumulate; ceiling areas and rafters, etc. A total of 49 data points were collected with 1-minute static counts and smears. A 100 percent surface gamma scan of exposed areas in the basement was conducted with a 2-inch by 2-inch Sodium Iodide scintillation detector.

The counts per minute (cpm) to microR per hour ( $\mu$ R/hr) conversion factor for the instrument utilized for these surveys is 929 cpm is equal to 1  $\mu$ R/hr.

Based on the results of the surveys an additional area of contamination was identified in the basement area. The window sill on the west wall exhibits gamma exposure dose rate of 76  $\mu$ R/hr and a direct beta measurement of 15,200 dpm/100cm<sup>2</sup>. Both of these measurements are in excess of both the sites requirements for release using the Permanent Fixed Structure criteria and the EPA criteria of 20  $\mu$ R/hr above background for any occupied or habitable building 40CFR192.12(b)(2) for interior investigation and remediation. There are several areas of the basement floor slab that are either between the lower (14,000 cpm) and upper (18,800 cpm) trigger limits for the Welsbach project and at least one area that exceed the upper contamination trigger limits for surface

gamma scans. However, the gamma measurements from the basement are below the 27  $\mu\text{R/hr}$  limit established by EPA.

**Table 1**

<b>Ref. Doc.</b>		<b>Radiation Type</b>	<b>Average dpm/100 cm<sup>2</sup></b>	<b>Removable dpm/100 cm<sup>2</sup></b>	<b>Total dpm/100 cm<sup>2</sup></b>
<b>ROD 07' 1999</b>	<b>Permanent Fixed Structure</b>	<b>Alpha (<math>\alpha</math>)</b>	NA	57	570
		<b>Beta (<math>\beta</math>)</b>	NA	86	855
	<b>Brick Only</b>	<b>Alpha (<math>\alpha</math>)</b>	NA	13	136
		<b>Beta (<math>\beta</math>)</b>	NA	323	3239



**Sevenson Environmental Services, Inc.**  
**Welsbach / GGM Superfund Site**  
**Survey Map**

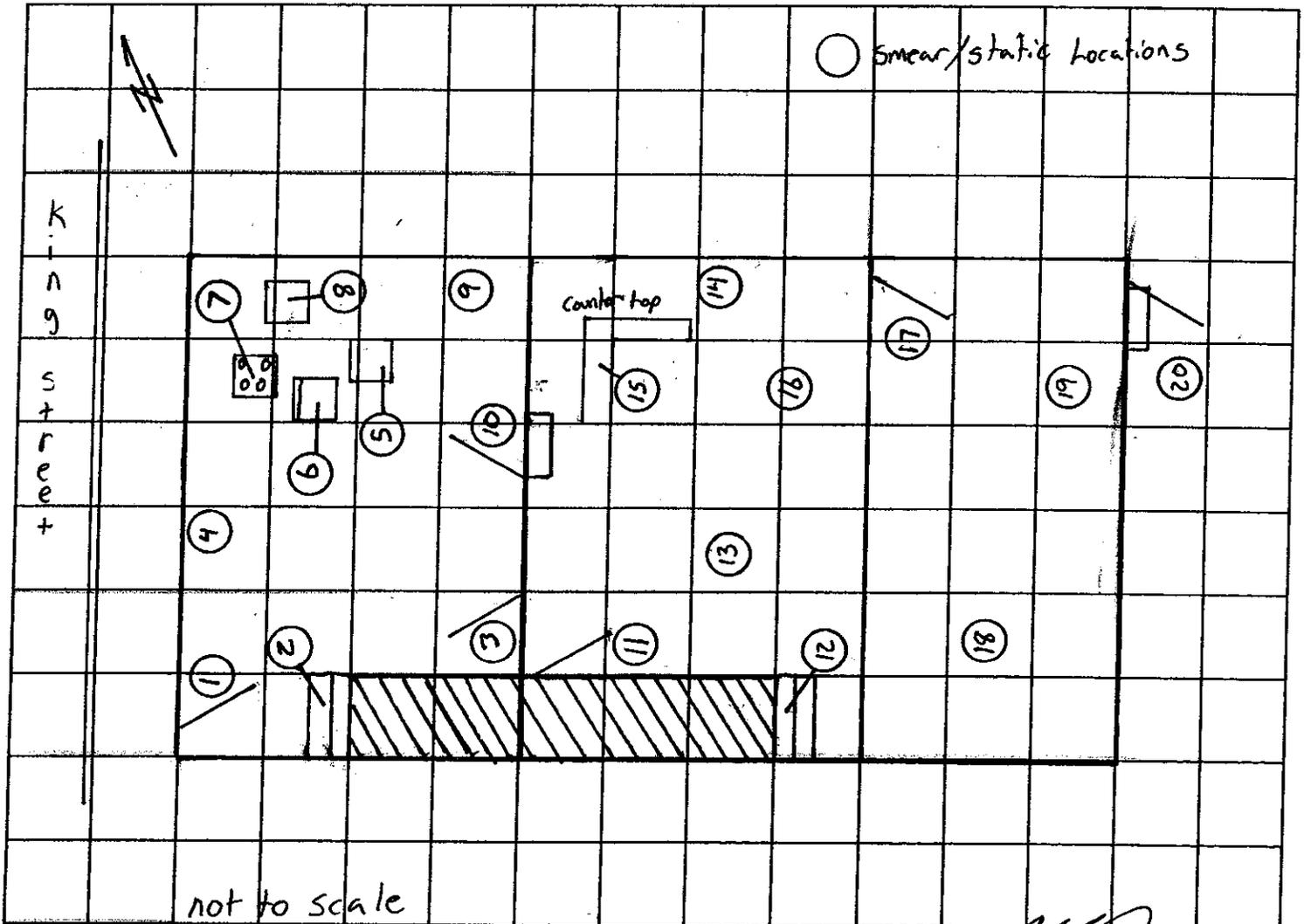
Property Address: 230 N. King st.  
 Property ID: 3870  
 Date: 1-15-10  
 Contractor: SES

Survey No.: WGGM-10-RRS-002  
 Survey Type: Scoping Survey (Floor)  
 Surveyor: L. Collins

**INSTRUMENT/EQUIPMENT**

Scaler/Ratemeter Model: 2360  
 Serial Number: 263874  
 Cal Due Date: 9-28-10  
 Probe Model: 43-93 Serial No. 283267  
 Cal Due Date: 9-28-10  
 Conversion Factor: NA  
 Instrument Background: 1 / 1789

Scaler/Ratemeter Model: \_\_\_\_\_  
 Serial Number: \_\_\_\_\_  
 Cal Due Date: N  
 Probe Model: \_\_\_\_\_ Serial No. \_\_\_\_\_  
 Cal Due Date: \_\_\_\_\_  
 Conversion Factor: \_\_\_\_\_  
 Instrument Background: \_\_\_\_\_



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## WGGM - SURVEY DATA SHEET

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Survey #:	WGGM-10-RRS-004	Item Surveyed:	230 North King, North and West basement walls	Date:	01/20/10											
Date:	1-18-10	Contaminant / Limit:	α Removable: 13 dpm/100 cm <sup>2</sup> , β Removable: 323 dpm/100 cm <sup>2</sup> ; α Total: 136 dpm/100 cm <sup>2</sup> , β Total: 3239 dpm/100 cm <sup>2</sup>	Survey Tech:	L. Collins											
Smears Counted By:	L. Collins	Parameters		Instrument Model:												
Date Counted:	1-18-10	Instrument Serial #:		Cal. Due Date:												
Survey Type:	Permanent Fixed Structure, Brick Only	X, Y int:		Eff:												
Level of Posting	RMA	BKG		Bcpm**:												
Notes:	<p>ACF = Area Correction Factor</p> <p>T<sub>g</sub> = Background Count Time</p> <p>T<sub>s</sub> = Sample Count Time</p> <p>R<sub>0</sub> = Bkgd count rate</p> <p>**Bcpm = Bkgd cpm</p> <p>cpmAB = Cpm above Background</p> <p>MDC = Minimum Detectable Concentration</p>	ACF:		Removable (dpm)=(cpm-Bcpm) / Eff												
No	Descriptions	X	Y	Z	MR/hr	cpm	mR/hr	Gamma	Corr mR	Alpha	Beta	Total	Alpha	Beta	Removable	
1	Wall North East Corner					<MDC				<MDC		<MDC	0	<MDC	37	<MDC
2	Window sill North East					14	89.5			177	<MDC	29189	0		38	
3	Wall below window North East					1	<MDC			183	<MDC		0		28	
4	Wall above shelf					4				204			0		25	
5	Wall below bottom shelf					1				188			0		39	
6	Wall near electric box					1				215			0		43	
7	Wall below shelf mid wall					1				185			0		36	
8	Wall between electric box and Column					4				195	<MDC		0		32	
9	Wall between electric box and Column					3				303	388		0		41	
10	Window sill north west corner					4				239	<MDC		0		39	
11	West wall north corner top					6				160			0		27	
12	West wall below window					2				230			0		25	
13	West wall south west corner bottom					4				236	<MDC		0		43	
14	West wall window sill					6				3084	15180		1		38	
15	West wall south west corner top					4				<MDC	<MDC		0	<MDC	36	<MDC
QC	15					7				<MDC	<MDC		0	<MDC	40	<MDC

# Sevenson Environmental Services, Inc. Welsbach / GGM Superfund Site Survey Map

Property Address: 230 N. King St.

Survey No.: WGGM-10-RRS- 004

Property ID: 3870

Survey Type: Scoping Survey, direct, smears (walls)

Date: 1-18-10

Surveyor: \_\_\_\_\_

Contractor: SE S

### INSTRUMENT/EQUIPMENT

Scaler/Ratemeter Model: 2360

Scaler/Ratemeter Model: \_\_\_\_\_

Serial Number: 225229

Serial Number: \_\_\_\_\_

Cal Due Date: 6-6-10

Cal Due Date: \_\_\_\_\_

Probe Model: 43-93 Serial No. 236994

Probe Model: \_\_\_\_\_ Serial No. A

Cal Due Date: 6-6-10

Cal Due Date: N

Conversion Factor: N/A

Conversion Factor: \_\_\_\_\_

Instrument Background: 19/2301

Instrument Background: \_\_\_\_\_

North and West Basement Walls

○ smear/static locations

West wall

North wall

15

14

11

10

8

Electrical box

6

4

2

6'

Fuel tank

1

13

12

9

7

5

3

14'

25'

not to scale

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# Sevenson Environmental Services, Inc. Welsbach / GGM Superfund Site Survey Map

Property Address: 230 N. King St.

Property ID: 3870

Date: 1-18-10

Contractor: SES

Survey No.: WGGM-10-RRS-004

Survey Type: Scoping Survey, Manual Scans (walls)

Surveyor: L. Collins

### INSTRUMENT/EQUIPMENT

Scaler/Ratemeter Model: 2221

Serial Number: 216514

Cal Due Date: 3-24-10

Probe Model: 44-10 Serial No. 227363

Cal Due Date: 3-24-10

Conversion Factor: N/A

Instrument Background: 8438 cpm

Scaler/Ratemeter Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Cal Due Date: \_\_\_\_\_

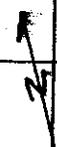
Probe Model: \_\_\_\_\_ Serial No. A

Cal Due Date: N

Conversion Factor: \_\_\_\_\_

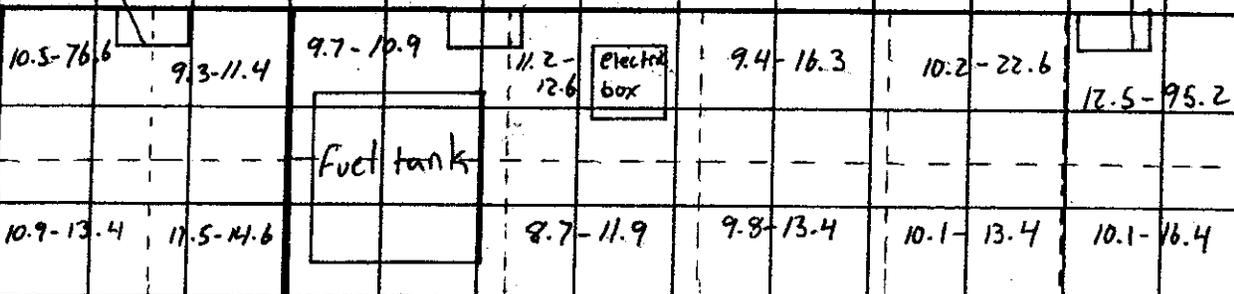
Instrument Background: \_\_\_\_\_

North and West Basement Walls



Window 76.6 cpm readings are x 1000 for total cpm

Window 155 cpm



West Wall 14'

North Wall 25'

not to scale

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## WGGM - SURVEY DATA SHEET

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Survey #: WGGM-10-RRS-003	Item Surveyed: Basement floor, 230 North King direct and removable	Project #: G-249
Date: 1-18-10	Contaminant / Limit: α Removable: 57 dpm/100 cm <sup>2</sup> ; β Removable: 86 dpm/100cm <sup>2</sup> ; α Total: 570 dpm/100 cm <sup>2</sup> , β Total: 855 dpm/100cm <sup>2</sup> ;	
Survey Tech: L. Collins	Comments: See attached pg 2 of 3 and 3 of 3	
Smears Counted By: L. Collins		
Date Counted: 1-18-10		
Survey Type: Permanent Fixed Structure		
Level of Posting: RMA		
Notes:		
ACF = Area Correction Factor	Direct	
T <sub>g</sub> = Background Count Time	(dpm) = (cpm-Bcpm) / (Eff * ACF)	
T <sub>s</sub> = Sample Count Time	Removable	
Rd = Bkgd count rate	(dpm) = (cpm-Bcpm) / Eff	
**Bcpm = Bkgd cpm	* dpm readings are per 100cm <sup>2</sup>	
cpmAB = Cpm above Background		
MDC = Minimum Detectable Concentration		

No	Descriptions	Dose Rate			Gamma			Corr mR			Total			Removable	
		X	Y	Z	cpm	mR/hr	cpm	cpm	cpm	Alpha	Beta	Alpha	Beta	cpm	* dpm
1	South east corner under stairs														
2	Floor near center of east wall	2			<MDC		280	<MDC			291	324	0	<MDC	36
3	Floor north east corner	8					327	515			323	494	0		30
4	Floor middle of east half	3					260	<MDC			260	<MDC	1		43
5	Floor middle east half near stairs	2					237				237		0		24
6	South middle wall on bench	1					244				244		0		33
7	Floor middle east of central air	3					187				187		0		35
8	Near north wall on shelf	2					234				234		0		31
9	Floor near north wall right of column	7					224				224		0		33
10	West of central air, south of water heater	4					117	<MDC			117	<MDC	1		30
11	Middle shelf, middle of S wall	2					311	450			311	450	0		26
12	Floor south west corner	1					186	<MDC			186	<MDC	0		35
13	West wall middle shelf	5					190	<MDC			190	<MDC	0		34
14	North west corner near fuel tank	3											0	<MDC	41
QC 14		5			<MDC		209	<MDC			209	<MDC	1	<MDC	38

# Sevenson Environmental Services, Inc. Welsbach / GGM Superfund Site Survey Map

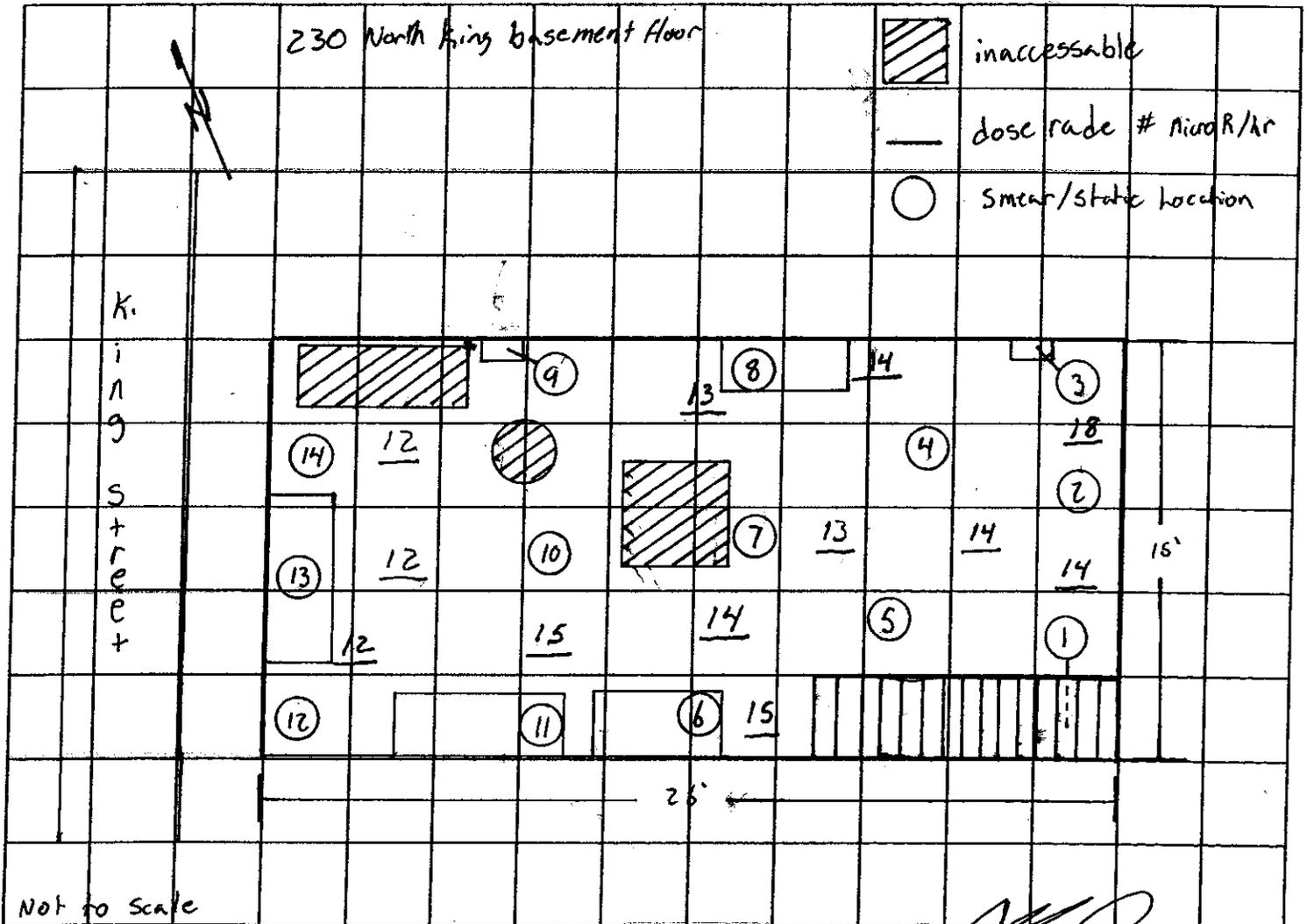
Property Address: 230 N. King St.  
 Property ID: 3870  
 Date: 1-18-10  
 Contractor: SES

Survey No.: WGGM-10-RRS- 003  
 Survey Type: Scoping survey, direct, dose rate  
 Surveyor: L. Collins

**INSTRUMENT/EQUIPMENT**

Scaler/Ratemeter Model: 2360  
 Serial Number: 225229  
 Cal Due Date: 6-6-10  
 Probe Model: 43-93 Serial No. 236994  
 Cal Due Date: 6-6-10  
 Conversion Factor: N/A  
 Instrument Background: 19 / 2301

Scaler/Ratemeter Model: Model 19  
 Serial Number: 265207  
 Cal Due Date: 9-29-10  
 Probe Model: internal Serial No. N/A  
 Cal Due Date: N/A  
 Conversion Factor: N/A  
 Instrument Background: 12 uR/hr



*L. Collins*  
01/20/10

# Sevenson Environmental Services, Inc. Welsbach / GGM Superfund Site Survey Map

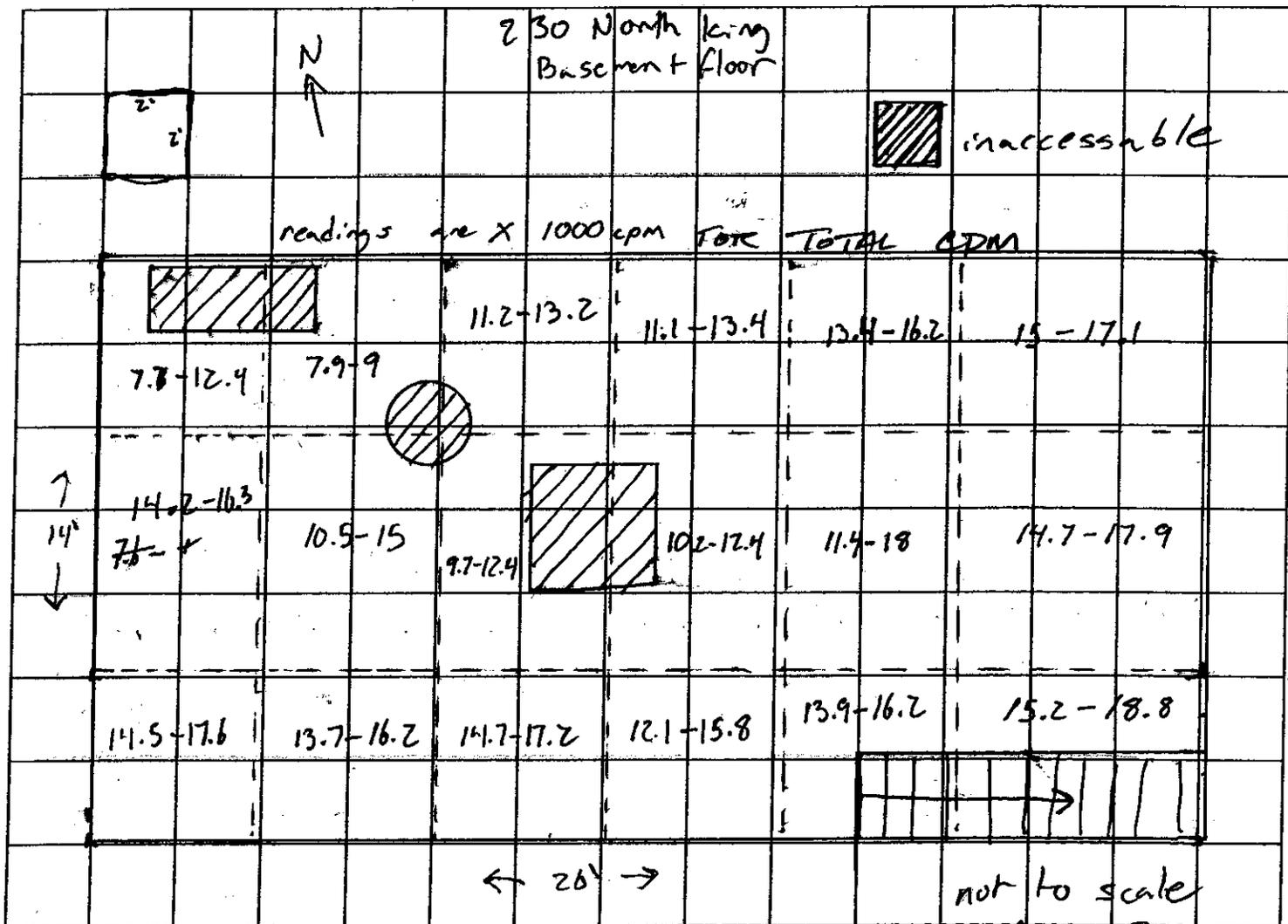
Property Address: 230 N. King  
Property ID: 3870  
Date: 1-18-10  
Contractor: SES

Survey No.: WGGM-10-RRS-003  
Survey Type: Scoping Gamma Survey (Floor)  
Surveyor: L. Collins

### INSTRUMENT/EQUIPMENT

Scaler/Ratemeter Model: 222 / 44-10  
Serial Number: 218514 / 227363  
Cal Due Date: 3-24-10  
Probe Model: 44-10 Serial No. 227363  
Cal Due Date: 3-24-10  
Conversion Factor: N/A  
Instrument Background: 8438 cpm

Scaler/Ratemeter Model: \_\_\_\_\_  
Serial Number: \_\_\_\_\_  
Cal Due Date: \_\_\_\_\_  
Probe Model: \_\_\_\_\_ Serial No. 4  
Cal Due Date: N  
Conversion Factor: \_\_\_\_\_  
Instrument Background: \_\_\_\_\_



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